

PATENT COOPERATION TREATY



PCT

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P26460PC00		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/IB2004/050386		International filing date (day/month/year) 02.04.2004		Priority date (day/month/year) 03.04.2003
International Patent Classification (IPC) or national classification and IPC B03B9/00, B03B5/72, B03B5/08, B03B5/26				
Applicant IE-TEC LICENSING LIMITED et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input checked="" type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 03.02.2005		Date of completion of this report 04.03.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Leitner, J Telephone No. +49 89 2399-7924 		

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IB2004/050386

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-22 as originally filed

Claims, Numbers

1-22 as originally filed

Drawings, Sheets

1/3-3/3 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/B2004/050386

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 10-22

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 10-22

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

☐ See separate sheet for further details

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IB2004/050386

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation to restrict or pay additional fees, the applicant has:
- ☐ restricted the claims.
 - ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ neither restricted nor paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-9 .

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-9
Inventive step (IS)	Yes: Claims	
	No: Claims	1-9
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application: No.

PCT/IB2004/050386

Re Item IV.

The present application contains claims directed to two different inventions which are not linked together to form a **single general inventive concept** (Rule 13.1 PCT).

The separate inventions/groups of inventions are:

1. Claims 1-9

Method for heavy particle separation including a primary separation stage with the steps of dropping, accumulating, concentrating and discharging of heavy particles and/or a secondary separation with the steps of infeeding, stilling and retaining heavy particles

2. Claims 10-22

Heavy particle separation apparatus and method including a concavely shaped, tiltable, transverse belt with a spiral rib for moving material up the transverse belt, and a material feeder and a water spray system above the belt.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

The inventions listed in groups 1 - 2 do not relate to a single general inventive concept under Rule 13.1 and 13.2 PCT, because they **lack the same or corresponding special technical features** for the following reasons:

The features of the independent claim 1 are known for example from US-A-682746. This document describes an apparatus used for a heavy particle separation method including the steps of dropping, accumulating, concentrating and discharging of heavy particles. It discloses all the features of claim 1, the subject matter of that claim is not novel.

Since the subject matter of claim 1 is known, the features of that claim do not make a contribution over the prior art and therefore are not "special technical features as defined in Rule 13.2 PCT.

The special technical feature of group 2 is, that the transverse belt is concavely shaped in its central area and the belt having a spiral rib on the outer surface of the belt, in

order to provide better transportation of the material upwardly along the belt.

The remaining features of the claims of group 1, which eventually could constitute a technical feature defining a contribution over the prior art, all address different technical problems by means of different technical features.

Re Item V.

- 1 The following documents are referred to in this communication:

D1 : FR 1 123 805 A (H. KAGAN) 28 September 1956 (1956-09-28)
D2 : US 1 736 111 A (T. M. DAVIDSON) 19 November 1929 (1929-11-19)
D3 : US 682 749 A (J. G. ROBERTS) 17 September 1901 (1901-09-17)
D4 : US 4 505 811 A (A. J. GRIFFITHS ET AL) 19 March 1985 (1985-03-19)

2 INDEPENDENT CLAIM 1

- 2.1 From the claim 1 itself it is totally unclear (Article 6 PCT) what steps are performed by the claimed method, because the terms dropping, accumulating, concentrating and discharging as well as the terms infeeding, stilling and retaining are so general, that they do not allow to define the subject matter for which protection is sought. In methods for the separation of heavy particles it is generally known to apply preliminary, primary and secondary separation stages where dropping, accumulating, concentrating and discharging as well as infeeding, stilling and retaining steps are included.
- 2.2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document):
A method for heavy particle separation including a primary separation stage with the steps of dropping (from feed chute 1 onto plate 2), accumulating (on plate 2), concentrating (on belt 14) and discharging (on chute 17) of heavy particles and/or a secondary separation with the steps of infeeding (from feed chute 1 onto plate 2), stilling (on plate 2) and retaining (on belt 14) heavy particles.

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/IB2004/050386

2.3 The features of claim 1 are also known from D2 - D4 and lack therefore novelty in view of these documents.

3 DEPENDENT CLAIMS 2-9

Dependent claims 2-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).